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Again thanking you for your hearty commendations of my course in relation to this subject, and assuring you that I shall continue to do all in my power to further the work, I remain Yours respectfuly,

NORMAN J. COLMAN, *Commissioner.*

Department of Agriculture, Washington, D. C., Oct. 20, 1886.

Second blooming of Salix humilis.

On the 25th of last September, while collecting the leaves of some willows, I came across a bush of S. humilis which was full of partially developed staminate catkins and three fully developed ones. I visited the place two weeks later and about one-half of the catkins had bloomed. The other half had dried up and withered. OLIVER A. FARWELL.

Phœnix, Mich.

CURRENT LITERATURE.

Plant Analysis: qualitative and quantitative. By G. Dragendorff, Ph. D. Translated from the German by Henry G. Greenish, F. I. C. J. H. Vail & Co., New York, 1884. 8vo. pp. 280.

The study of plant constituents, a most important part of a full knowledge of plants, received a great impetus from the publication of this work. Both in its original form and its English version it at once attracted attention for its completeness, compactness and adaptability to the requirements of the student. The translation is exceptionably accurate and satisfactory, and has all the value of an original work.

The study of chemical botany is now receiving more attention than heretofore, and merits, and is likely to obtain, a larger place yet in the curriculum of botanical science, being especially appropriate as a part of the course in vegetable physiology, and even more so in medical and pharmaceutical botany. This change can be chiefly traced to the influence of Dr. Dragendorff's work, for although it has been before the public but a short time, it has nevertheless come to be looked upon as the standard and necessary guide in such study.

A certain amount of knowledge of chemistry, chemical manipulation, and of the microscope, is presupposed in the pupil, but having this, the work will be found as clear and simple as the complex nature of the subject permits. Its arrangement is such that it can not fail to stimulate the pupil to original investigation, for while the limits of the work would only permit the introduction of the more important constituents of plants, yet he is kept upon the alert for less usual or unknown compounds, which are to be worked out from information gathered elsewhere, the copious references to literature aiding him in his research.

The fact that the work is specially adapted for the investigation of chemical problems from a botanical point of view, makes the notice of it at this time peculiarly fitting, as Miss Martin's recent articles on the subject have undoubtedly turned the thoughts of our readers in this direction.

General Biology. By William T. Sedgwick, Ph. D., and Edmund B. Wilson, Ph. D. Part I. 8° pp. vii. 193. Henry Holt & Co., New York, 1886. American Science Series.

A new book on biology is always welcome, especially when it deals with methods of laboratory work. Every respectable teacher believes in laboratory methods, but every good teacher follows no guide blindly, and has notions of his own as to the order and details of presentation. The very fact that a constant succession of laboratory guides is appearing shows that teachers differ as to these matters of detail, and the wise teacher will use his own methods and cull out from all these laboratory guides the things that are adapted to his wants. We believe in general biology, and think it should be more generally taught, and the book before us serves well as an introduction to the more detailed study of either plants or animals. The method proposed is to state the general principles of biology, illustrate them so far as possible by laboratory work, and then make a detailed study of a single plant and animal. For this reason a fern (Pteris aquilina) and an earth-worm are selected. Four chapters are devoted to the preliminary statement and illustration of principles, six to the study of the two types mentioned, and one to a discussion of classification. It is very true that an ordinary laboratory guide often leads to the accumulation of an undigested mass of facts, and the student has in the end no clear conception of the relations of things, but this simply results from the wrong use of such a guide. It is not expected in these days that a student is to get all his knowledge of a subject from a single book, and he who uses a laboratory guide, either in the absence of a living teacher or without some good general text-book, can not expect to obtain the best results. Our only criticism of this book is that while it dispenses with the necessity of both text-book and teacher in the general statement of biological principles, it creates a greater necessity for both in following the laboratory directions than any guide we have yet seen. The book is to be an introductory one, so introductory that the student is to be taught the use of the microscope, but the laboratory directions are so condensed, many of the operations are so difficult, and, more than all, the material is so varied that it would tax our best equipped laboratories and our best trained teachers to have a beginning class follow them. To save a constant supervision on the part of the teacher, and the almost impossible attempt to get together such varied material, we prefer explicit directions in laboratory work, a few types, and to leave to the teacher the task of enunciating principles. It must not be understood for a moment that we disapprove of the laboratory directions, for they are excellent, very desirable to follow, and well illustrate the principles of biology. The criticism only raises the question as to their adaptability to introductory work and the average American laboratory. The figures of the book are numerous, well executed, and refreshingly new, and it would be well if they could be an incentive to more numerous and better drawings in our laboratories. We commend this book to the careful attention of teachers, and feel confident that it is one that they can not afford to be without.

British Fungi (*Hymenomycetes*). By the Rev. John Stevenson. Vol. II, Cortinarius-Dacrymyces. Edinburgh: Wm. Blackwood & Sons, 1886. pp. 336. Large 12mo. Illustrated.

The second and concluding volume of this work, completing the order Hymenomycetes, follows the first with remarkable and commendable promptness. That they should both be issued within one year was unexpected, but will give great satisfaction to collectors.

The first volume was noticed and commended in the July number of this journal (where a typographical error made the date read 1866 instead of 1886), and only a few words need be added here. The second volume contains over fifty genera, of which the largest, with the number of species of each, are as follows: Marasmius 36, Boletus 41, Russula 42, Clavaria, Hydnum and Lactarius 46 each, Cœticium 48, Hygrophorus 54, Polyporus 124, and Cortinarius 130. The descriptions are equally complete and satisfactory with those of the first part. A convenient glossary is added, which also illustrates the care that has been exercised in excluding dispensable terms, and in simplifying the technical nomenclature as much as possible. Each volume possesses its own index.

Both the author and publishers are to be congratulated upon the satisfactory completion of so valuable a handbook. While being an aid to the American student, the need of such a work for our own country will yet make itself the more keenly felt.